

ABSTRACT OF THE DISCLOSURE

Disclosed is a positive-working chemical-amplification photoresist composition used in the patterning works in the manufacture of semiconductor devices, with which quite satisfactory patterning of a photoresist layer can be accomplished even on a substrate surface provided with an undercoating film of silicon nitride, phosphosilicate glass, borosilicate glass and the like in contrast to the prior art using a conventional photoresist composition with which satisfactory patterning can hardly be accomplished on such an undercoating film. The photoresist composition comprises, besides a film-forming resin capable of being imparted with increased solubility in an alkaline solution by interacting with an acid and a radiation-sensitive acid-generating compound, a phosphorus-containing oxo acid such as phosphoric acid and phosphonic acid or an ester thereof.